

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 September 2003 (25.09.2003)

PCT

(10) International Publication Number
WO 03/078858 A1

(51) International Patent Classification⁷: **F16F 7/12**, B62D 25/00

(21) International Application Number: PCT/JP03/02972

(22) International Filing Date: 13 March 2003 (13.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2002-072964 15 March 2002 (15.03.2002) JP
2002-077230 19 March 2002 (19.03.2002) JP

(71) Applicant (for all designated States except US): **HONDA GIKEN KOGYO KABUSHIKI KAISHA [JP/JP]**; 1-1, Minami-Aoyama 2-chome, Minato-ku, Tokyo 107-8556 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **YAMAZAKI, Shouji** [JP/JP]; c/o Honda R & D Co., Ltd., 4-1, Chuo 1-chome, Wako-shi, Saitama 351-0193 (JP).

(74) Agents: **SHIMODA, Yo-ichiro et al.**; Meisan Tameike Bldg., 1-12, Akasaka 1-chome, Minato-ku, Tokyo 107-0052 (JP).

(81) Designated States (national): CA, CN, US.

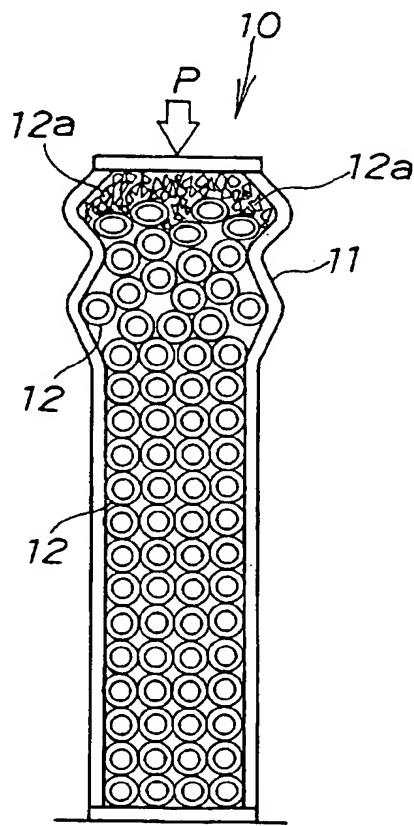
(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:

— with international search report

[Continued on next page]

(54) Title: SKELETON MEMBER STRUCTURE



(57) Abstract: A skeleton member structure having a tubular structural member (11, 211) filled with granular materials for absorbing impact energy. The granular materials includes a granular material having a hollow portion (12a, 212a) or a porous granular material. When the skeleton member receives an impact, the granular materials are deformed or collapsed, and impact energy is stably absorbed. Since the granular materials are hollow or porous, the weight of the skeleton member filled with the granular materials is reduced.

WO 03/078858 A1